

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027807**Date Inspected:** 22-Jun-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

<b>CWI Name:</b>	As noted below		
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>

<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Component:</b>	SAS OBG		

**Bridge No:** 34-0006**Summary of Items Observed:**

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

**Electroslag Weld Repairs Tower**

This QA Inspector randomly observed ABF/JV qualified welder Jin Pei Wang #7299 performing the Shielded Metal Arc Welding (SMAW) process utilizing E7018-H4R electrodes in the 3G Vertical position on ESW V Face A on the interior of the Tower. This QA Inspector observed QC Inspector Bernard Docena monitoring the welding to ensure the welding parameters (Amps) was in compliance pertaining to ABF-WPS-D15-1000-Repair. This QA Inspector noted that between passes the welder was cleaning the work using a small disc grinder as QC measured the inter-pass temperatures with Tempilstik Heat Indicators. At the time of the observations no issues were noted by this QA Inspector. This QA inspector made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general conformance to the contract requirements and Request for Weld Repair (RWR) 201206-048.

This QA Inspector randomly observed ABF/JV qualified welder Wai Kit Lai #2953 performing Flux Core Arc Welding (FCAW) using E71T-1M ESAB Dual Shield 70 Ultra Plus electrodes and implementing Caltrans approved Welding Procedure Specification's (WPS) ABF-WPS-D1.5-3000-3-Repair. The joint being welded was tower shear plate designated as ESW weld, location P from face A. Location for this repair was: Y=5440mm. During welding, ABF Quality Control (QC) Jesse Cayabyab was noted monitoring the welding parameters (Amps),

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Volts and Travel Speed). This QA Inspector noted that between passes the welder was cleaning the work using a small disc grinder as QC measured the inter-pass temperatures with Tempilstik Heat Indicators. At the time of the observations no issues were noted by this QA Inspector. On subsequent observations to monitor quality, it was noted that the work was completed and appeared to be in general conformance with the contract documents and RWR 201205-009.

### 13E Drop-in Panels (Interior)

This QA Inspector randomly observed the repair welding operations performed by ABF welder Edward Brown #9331 at 13E PP122.5-E2.1 BF1. The welder was observed depositing metal by utilizing the SMAW process in the 4G overhead position employing 3.2mm E7018-H4R electrodes drawing amperage of 129 as pertaining to ABF-WPS-D1.5-1004-Repair. This QA Inspector verified that the electrodes were obtained from a baking oven at the correct temperature and within acceptable exposure limits. The welders were observed cleaning the start/stop edges of the work utilizing small disc grinders and compressed air and restored the base metal to the original surface and ground smooth, and the welds to their specific profiles. The repairs were noted as being in progress. This QA Inspector referenced RWR 201206-039 during the welding observations.

This QA Inspector randomly observed ABF/JV qualified welder Steven Davis #7889 performing SMAW using 3.2mm" diameter E7018-H4R electrodes and implementing Caltrans approved WPS ABF-WPS-D1.5-1080-Revision 1. The joint being welded was 13E PP124.5-E2.2-BR1 a complete Joint Penetration (CJP) welded in the 3G Vertical and 4G Overhead positions. During welding, ABF QC Salvador Merino was noted as monitoring the welding parameters. Welding parameters were recorded as A=125. Upon completion of the back gouge QC performed Magnetic Particle (MT) Inspection of the site to ensure soundness of the metal. This QA Inspector noted that QC found no relevant indications. On a subsequent observation this QA Inspector noted that between passes the welder was cleaning the work using a small disc grinder as QC measured the inter-pass temperatures with Tempilstik Heat Indicators. At the time of the observations no issues were noted by this QA Inspector. On subsequent observations to monitor quality, it was noted that the work was completed and appeared to be in general conformance with the contract documents.

This QA inspector observed at random intervals ABF/JV qualified welder Richard Garcia #5892 performing SMAW in the 4G Overhead position with E9018-M-HR electrodes drawing amperage of 127 utilizing the Caltrans approved Welding Procedure Specification ABF-WPS-D1.5-1162-4. The welds are Partial Joint Penetration (PJP) butt joint splice Deck Stiffener Flange (DSF) to Longitudinal Stiffener-3 (LS-3). The weld surface and surrounding area was brought to temperature by the use of a gas torch and the preheat temperature was confirmed by ABF personnel prior to welding. The ABF Quality Control (QC) Salvador Merino was noted monitoring the welding parameters during welding. The welding at this location was observed to be in progress and appeared to be in general conformance with the contract documents.

### Summary of Conversations:

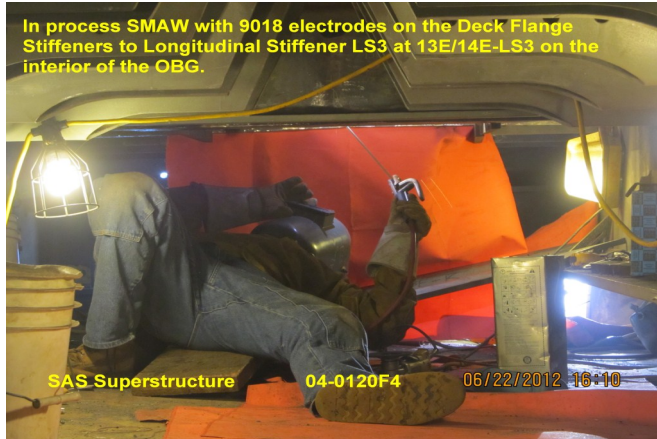
Conversations were relevant to welding performed and information unique with each location.

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### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910 , who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Frey,Doug	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell,Bill	QA Reviewer

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